

TYURIN, I.V.; SOKOLOV, A.V.; BUSHINSKIY, V.P.; SOBOLEV, S.S.;
FRANTSSESON, V.A.; KARPINSKIY, N.P.; BALYABO, N.K.; GRINCHENKO,
A.M.; KRUPSKIY, N.K.

Aleksei Nikanorovich Sokolovskii; obituary. Pochvovedenie
no.10:124-125 O '59. (MIRA 13:2)
(Sokolovskii, Aleksei Nikanorovich, 1884-1959)

BALYABO, N.K., red.; KARPINSKIY, N.P., red.; FRANTSESON, V.A., red.
[deceased]; SHLEPANOV, V.M., red.; ANTONOVA, N.M., tekhn.
red.

[Agricultural characteristics of soils; as exemplified by
individual economies] Agronomicheskaya kharakteristika pochv;
na primere otdel'nykh khoziaistv. Pod obshchei red. N.K.Baliabo,
N.P.Karpinskogo i V.A.Frantsezona. Moskva, Sel'khozizdat,
1961. 290 p. (MIRA 15:2)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut
udobreniy i agropochvovedeniya.
(Soils)

BALYABO, N.K.

[Handling Solonets soils and increasing their productivity]
Osvoenie i povyshenie plodorodiia solontsovykh pochv. Mo-
skva, Izd-vo selkhoz.lit-ry, zhurnalov i plakatov, 1962.
214 p. (MIRA 16:8)

(Solonets soils)

SINYAGIN, I.T.; KOREN'KOV, D.A.; CHEREMISOV, G.A.; NAYMIN, P.G.;
BARANOV, P.A.; KARPINSKIY, N.I.; BELYABO, N.K.; MAMCHENKOV, I.P.

Leonid Nikolaevich Barsukov, d. 1965; an obituary. Zemledelia
27 no.10:89 O '65. (MIRA 18:10)

BALYAEV, V.V.

Medicolegal expertise concerning the mechanism of the formation
of excoriations; a preliminary report. Sud.-med.ekspert. 7
no. 2:7-11 Ap-Je '64. (MIRA 17:7)

1. Kafedra sudebnoy meditsiny (zav. - prof. V.M.Smol'yaninov)
II Moskovskogo meditsinskogo instituta imeni Pirogova.

AKOPYAN, M.Ye.; BILYAKIN, I.I.; VILESOV, F.I.

The MV-3 vacuum monochromator. Prib. i tekhn. eksp. 6 no.6:96-
99 N-D '61. (MIRA 14:11)

1. Leningradskiy gosudarstvennyy universitet.
(Monochromators)

BALYAKIN, N.T.

7

The alloy ATV. N. T. Balyakin. *Vestnik Metall.* 1938, No. 7, 102-103 (1938). The Cr-Ni alloy of the following composition was investigated: C 0.37, Mn 1.94, S 0.003, Cr 13.27, Ni 32.67 and Fe 51.98%. Data given include d, temp. coeff. of expansion, and the sp. elec. resistance. Diagrams show the change of mech. properties of the cold-drawn wire in relation to the heat treatment. Mixing of the ores and treatment of the molten Cr-Ni cast steel in the crucible furnace is given. M. G. Moser

ADD. 154. METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND COPIES

PROCESSES AND PROPERTIES INDEX

1ST AND 2ND COPIES

BALYAKIN, N.T.

7

Reduction of area in samples from crankshafts. N. T. Balyakin. *Sobremennyye Stal* 1935, No. 1, 35-8; *Stal*, 1936, 1, 1793; cf. C. A. 30, 4189. To det. the cause of low reduction-of-area values, samples of steel contg. approx. C 0.18, Mn 0.35, Si 0.1, P 0.010, S 0.012, Cr 1.45, Ni 4.37 and W 1.00% were subjected to chem. and metallographic examn. Conclusion: The values can be improved by better heat treatment and decrease in the nonmetallic inclusions. L. P.

ASH-51.6 METALLURGICAL LITERATURE CLASSIFICATION

11344 BALYAKIN

11344 BALYAKIN

CA
BALYAKIN, N.T.

COMPARISONS OF THE PROPERTIES OF CRUCIBLE AND ELECTRIC STEELS. N. T. Balyakin. *Tral. Met.* 1939, No. 2, 30-6. *Khim. Referat.* 1939, No. 8, 75. — Structural crucible steels 3A2 (C 0.25, Mn 0.30, Si 0.14, P 0.011, S 0.022, Cr 1.48, Ni 4.34 and W 1.03%) and 3A1 (C 0.17 and same contents of the other elements) and elec. steel 3A1 (C 0.17, Mn 0.45, Si 0.30, P 0.015, S 0.011, Cr 0.48, Ni 4.30 and W 0.98%) were compared. The impact strength of the crucible steel in the longitudinal direction was 8.7-11 kg./sq. cm. for the 3A2 steel, 9.7-11.4 kg./sq. cm. for the 3A1 steel and 14.5-16.5 kg./

sq. cm. for the elec. steel. No essential difference was found between the 3A2 crucible and the elec. steels in cylinder tests for their fatigue. The grains of the crucible and of the elec. steels with addns. of Al (1 kg./ton of the metal 2 hrs. before the end of smelting) were of the No. 3-4 order according to McQuaid. After normalization the true grains of the crucible and the elec. steels were approx. identical. With the same grain size in both steels, the impact strength of the crucible steel was lower than that of the elec. steel. The contaminations of the crucible steel consisted of Al_2O_3 and of Si-alumina type inclusions in the MnS-FeS and MnO-FeO compds. The crucible steel was more contaminated with S and P and it was less dense and uniform than the elec. steel. The advantage of the crucible steel consists mainly in the absence of flakes. In order to avoid flakes and cracks in elec. steel a slower heating and cooling during the whole cycle is recommended. The crucible steel is 2.4 times more expensive than the elec. steel. W. R. Henn

ASD 31 A METALLURGICAL LITERATURE CLASSIFICATION

BALYAKIN, N. T.

Dissertation: "Investigation of the Effect of Metallurgical Factors on the Properties of High-Strength Steels." Cand Tech Sci, Sci Res Institute, Ministry of the Defense Industry (MOP), 1953. (Referativnyy Zhurnal-khimiya, No 11, Moscow, Jun 54)

SO: SUM 318, 23 Dec 1954

BALYAKIN, Oleg Konstantinovich; MELEYEV, A.S., red.; LAVRENOVA, N.B.,
tekhn.red.

[Repair of deadwood units] Remont deidvudnykh ustroistv.
Moskva, Izd-vo "Morskoi transport," 1958. 69 p. (MIRA 12:6)
(Ships--Maintenance and repair)

MEGRABOV, Grayr Artem'yevich; MOROZOV, Mikhail Yakovlevich; SOKOLOV,
Leonid Ivanovich; BALYAKIN, Oleg Konstantinovich; KEPKE, L.M.,
red.; FEDOROV, V.P., red. izd-va; LAVRENOVA, N.B., tekhn. red.

[Technology of ship repairs] Tekhnologiya sudoremonta. Moskva,
Izd-vo "Morskoi transport," 1962. 440 p. (MIRA 15:5)
(Ships--Maintenance and repairs)

BALYAKIN, O.K.

Rapid chemical cleaning of refrigerator system pipelines. Biul.
tekhn.-ekon.inform. Tekhn. upr. Min. mor. flota 7 no.5:76-78 '62.
(MIRA 16:3)

1. Glavnyy tekhnolog Dal'nevostochnogo gosudarstvennogo proyektno-
konstruktorskogo i nauchno-issledovatel'skogo instituta morskogo
transporta.

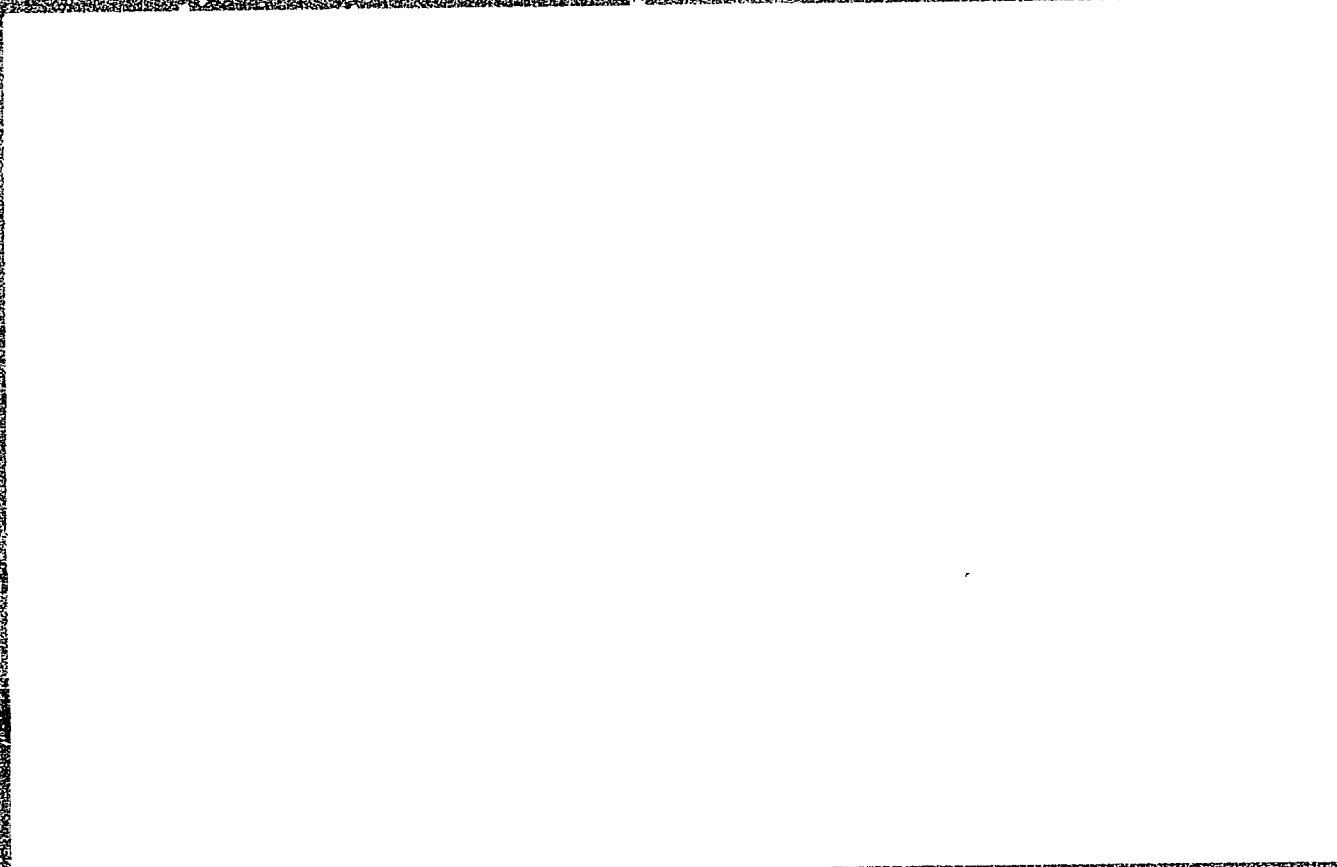
(Marine refrigeration--Cleaning)

BALYAKIN, Vitaliy Arsen'yevich; AVDEYEV, M.I., red.; PARAKHINA, N.L.,
tekhn. red.

[Toxicology and expertise on alcoholic intoxication] Toksikologiya i ekspertiza alkohol'nogo op'ianeniia. Moskva, Medgiz, 1962. 193 p. (MIRA 16:5)
(ALCOHOLISM) (MEDICAL JURISPRUDENCE)

"APPROVED FOR RELEASE: 06/06/2000

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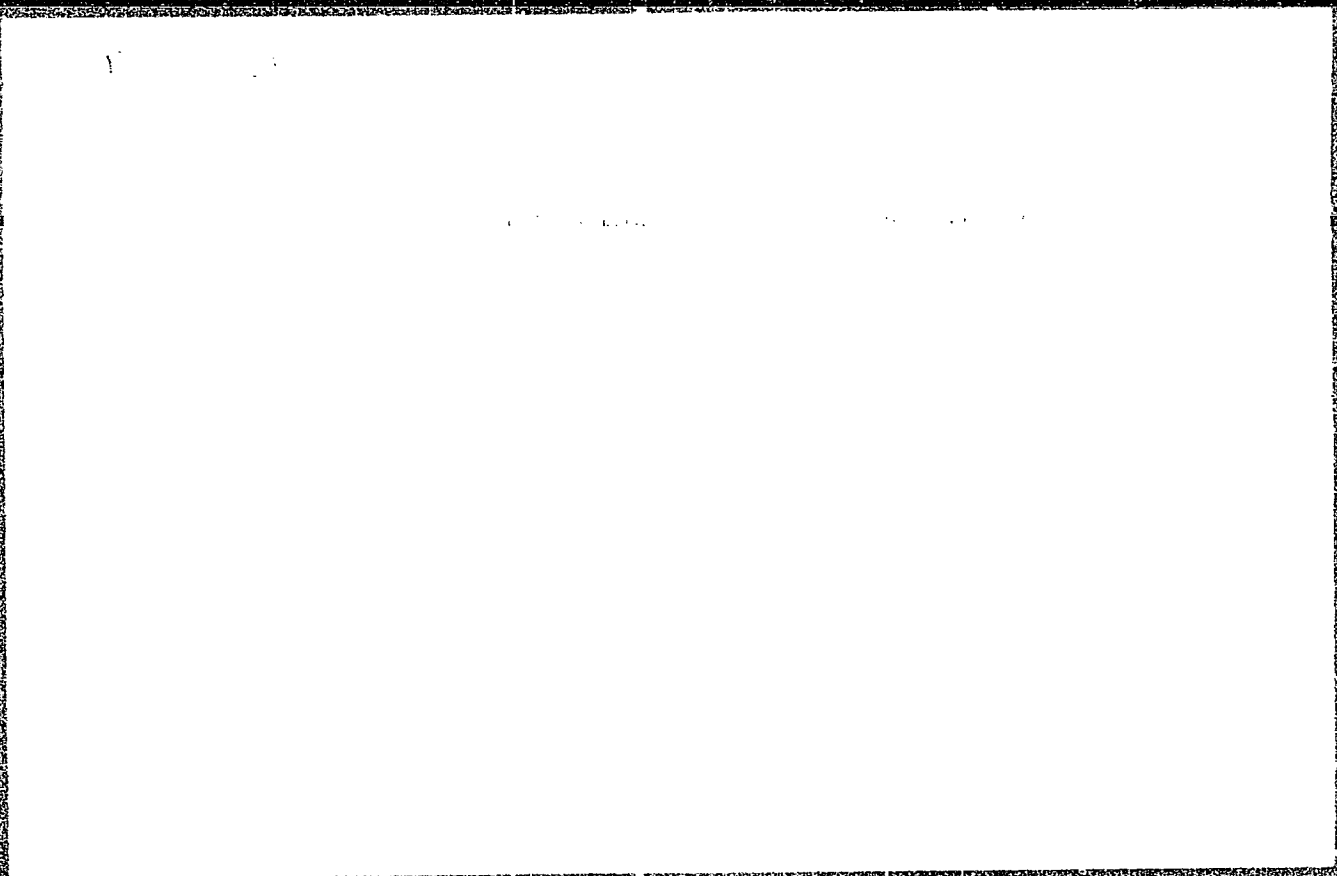


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RUBTSOV, I.A.; BELYAKINA, M.V.; ZHDANOVICH, Ye.S.

Obtaining 4-methyl-5- β -oxyethylthiazole. Trudy VNIVI 6:27-28
'59. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
Sinteticheskaya laboratoriya.
(THIAZOLE)

BALYAKINA, M.V.; ZHDANOVICH, Ye.S.; LUK'YANOVA, P.V.; PREOBRAZHENSKIY, N.A.

Study of pyridoxine hydrochloride. Trudy VNIVI 8:12 '61.
(MIRA 14:9)

(Pyridoxine)

BALYAKINA, M.V.; ZHDANOVICH, Ye.S.; PREOBRAZHENSKIY, N.A.

Synthetic studies in the field of B₆-group vitamins. Part 1:
Synthesis of 2-methyl-3-hydroxy-4-methoxymethyl-5-hydroxymethyl-
pyridine. Zhur. ob. khim. 31 no. 2:542-544 F '61. (MIRA 14:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(Pyridine) (Pyridoxine)

BALYAKINA, M.V.; ZHDANOVICH, Ye.S.; PREOBRAZHENSKIY, N.A.

Synthetic studies in the field of vitamins B₆. Part 2: Synthesis of
2-methyl-3-hydroxy-4-aminomethyl-5-hydroxymethylpyridine. Zhur.ob.khim.
31 no.9:2983-2984 S '61. (MIRA 14:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(Pyridoxime) (Pyridine)

BALYAKINA, M.V.; ZHDANOVICH, Ye.S.; ZEMSKOVA, A.G.; PREOBRAZHENSKIY, N.A.

Synthetic research in the field of vitamins of the group B₆.
Part 3: Synthesis of pyridoxine derivatives containing residues
of higher aliphatic acids. Zhur.ob.khim. 32 no.4:1172-1175
Ap '62. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(Pyridoxol)

KAPLAN, S., inzhener; BALYAKOV, S., inzhener.

Nonstop processes in sewing artels. Prem. keep. no. 3:20-21 Mr '56.
(Moscow--Clothing industry) (MIRA 9:7)

ACCESSION NR: AP4042554

S/0056/64/046/006/1967/1978

AUTHORS: Balyakov, V. A.; Veksler, V. I.; Viryasov, N. M.; Kladnit-skaya, Ye. N.; Kopylov, G. I.; Penev, V. N.; Sokolova, Ye. S.; Solov'yev, M. I.

TITLE: Pion resonances produced simultaneously with strange particles in negative pion proton interactions at 7.5 GeV/c

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 6, 1964, 1967-1978

TOPIC TAGS: pion, negative pi meson, strange particle, resonance scattering, omega meson, proton reaction

ABSTRACT: Continuing a series of earlier research on the generation of strange particles and pions in a beam of 7.5 GeV/c negative pions (ZhETF v. 43, 815, 1962; v. 44, 431 and 1474, 1963; Proc. 1960 Rochester Conf., 1961, p. 388), the authors investigated with the aid of 24-liter propane bubble chamber the pion resonances produced simul-

Card 1/3

ACCESSION NR: AP4042554

taneously with strange particles. Pion resonances produced in interactions of the type

$$\pi^- + p \rightarrow \begin{cases} \Lambda(\Sigma^0) + K^0 + m\pi \\ \Lambda(\Sigma^0) + K^+ + m\pi \\ K^0 + \bar{K}^0 + p(n) + m\pi \\ K^0 + K^- + p(n) + m\pi \\ \bar{K}^0 + K^+ + p(n) + m\pi \\ K^0 + \Sigma^+ + m\pi \\ K^0 + \Sigma^- + m\pi \end{cases}$$

were investigated (m -- number of pions). Simultaneous production of ρ^0 mesons and ΛK pairs was observed in events characterized by a charged particle multiplicity $n_s = 4$ and having cross sections of 20 ± 8 microbarns. Cross sections for the production of ω and η resonances are presented. It is concluded that the four-pion effective

Card 2/3

ACCESSION NR: AP444-224

mass distribution has a peak at 1340 MeV and several possible reasons for this peak are suggested. "We are greatly indebted to M. I. Podgoretskii and I. V. Chuvilo for assistance and valuable discussion, to Tu Yuan-ts'ao, A. A. Kuznetsov, Kim Hi In, Nguyen Dinh Tu, and Wang Yung-ch'ang for participating in the first stage of the work, to N. N. Govorun and N. F. Markova of the computing center of OIYaI and to G. M. Korotkova, S. N. Komarova and L. M. Zhukova for measurements and calculations." Orig. art. has: 11 figures, 11 formulas, and 1 table.

ASSOCIATION: Ob'yedinenny'y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Research).

SUBMITTED: 30Dec63

DATE ACQ:

ENCL: 00

SUB CODE: NP

NR REF SOV: 009

OTHER: 012

Card 3/3

L 39023-56 EWT(1)/T JK SOURCE CODE: UR/0177/66/000/005/0041/0047
 ACC NR: AP6029603
 AUTHOR: Balyakov, V. D. (Colonel in the medical service; Professor) 18
 ORG: none B
 TITLE: New developments in the epidemiology of smallpox
 SOURCE: Voenno-meditsinskiy zhurnal, no. 5, 1966, 41-47
 TOPIC TAGS: epidemiology, virus disease
 ABSTRACT: The author reviews the recent literature on the epidemiology of smallpox, concentrating mainly on the source of the pathogen of the infection and on the mechanism of transmission. He cites evidence showing that smallpox patients cannot transmit the disease during the incubation period and for at least 24-48 hours thereafter. The disease is most contagious when eruptions appear on the mucosa of the respiratory tract, generally at the start of the second week of the disease. Smallpox elements may be destroyed even earlier, sometimes even before the skin eruptions.
 In discussing the possibility of the virus being transmitted by healthy persons, the author supports the theoretical view that there are no such things as "healthy carriers." Apparent instances to the contrary are due either to mechanical transmission of the virus or to the fact that the virus may be destroyed by disinfectants.
 UDC: 616.912-036.22
 Card 1/2

L 35023-66

ACC NR: AP6029603

virus on the clothing and footwear of immune persons or to undetected mild cases of the disease in those individuals.

Of the various mechanisms of transmission of the smallpox pathogen mentioned in the literature (air-droplet, air-dust, contact, alimentary, transmissive), only the air-droplet and air-dust methods are of practical significance under present-day conditions. Orig. art. has: 3 figures and 1 table. [JPRS: 36,932]

SUB CODE: 06 / SUBM DATE: none

Card 2/2/MLP

EL'GORT, V.M.; BELYATINSKAYA, L.N.; TASHPULATOV, K.; MIRZAYEV, F.M.

Determination of the viscosity of liquids by the polarographic
method. Uzb.khim.zhur. no.2:34-37 '61. (MIRA 14:10)

1. Sredneaziatskiy politekhnicheskiy institut.
(Liquids) (Viscosity) (Polarography)

BALYAN, A.A.

Conference of Transcaucasian psychologists and physiologists. Vop.
psikhol. 7 no.1:183-188 Ja-F '61. (MIRA 14:3)
(Psychology—Congresses) (Physiology—Congresses)

BAL'YAN, G. A.

"Sowing Sudan Grass and Foxtail Millet on Collective Farms of the Mountain
Zone of Azerbaydzhan," Korm. baza, 3, No.3, 1952

1. BAL'YAN, G. A.; ZAKHARYAN, V. V.
2. USSR (600)
4. Cattle - Feeding and Feeding stuffs
7. Organizing rotation lot pasturing on the Molotov Collective Farm, Korm. baza, 3, No. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

BALYAN, G. A.

"Pastures of Dostafyurskiy Rayon of Azerbaydzhan SSR and Experiments on Their Improvement Through Seeding and Sowing of Fodder Grasses." Cand Agr Sci, All-Union Sci-Res Inst of Fodders, Moscow, 1953. (RZhBiol, No 3, Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

So: Sum. No. 401, 5 May 55

COUNTRY : USSR
CATEGORY : Cultivated Plants - Forage Crops. M
ABG. JOUR. : RZhBiol., No.14, 1958, No.63457
AUTHOR : Petrosyan, S. M., Balyan, G. A.
INST. : -
TITLE : Cultivation of Esparsette in Nagorny Karabakh.
ORIG. PUB. : Zemledeliye, 1957, No. 12, 59-62
ABSTRACT : In 1955-1956, it was determined at Stepanakertskaia experiment station of animal husbandry and at Karabakh zonal experiment station that esparsette variety AzNIKh No. 74 distinguished by good foliation, gives the greatest yield of hay and green roughage. An intensive tillering of esparsette was noted after mowing at budding stage. Before the onset of drought, the grass grew to 45 cm. Esparsette succeeds better on shady, northern slopes. It is better to sow it with a drill under the cover of winter wheat. For the improvement of the structure of mountain slope soils and their protection from erosion, esparsette should be

Card:1/2

COUNTRY : USSR
CATEGORY : Cultivated Plants - Forage Crops. M
ABS. JOUR. : RZhBiol., No.14, 1958, No.63457
AUTHOR :
INST. :
TITLE :
ORIG. PUB. :
ABSTRACT : sown in mixture with perennial cereal grasses. Kspasette
produces high and stable crops of seeds. — O. A. Gorbunova

Cards: 2/2

89

USSR/Farm Animals - Honey Bees.

Q-5

Abs Jour : Ref Zhur - Biol., No 18, 1958, 83462

Author : Balyan, G.A.

Inst : -

Title : ~~Planting of Beans~~ at the Karabakh Highland Kolkhozes.

Orig Pub : Pchelovodstvo, 1958, No 2, 36-37.

Abstract : Experimental plantings carried out at some kolkhozes proved the high efficacy of bean planting. In lowlands and foothill areas the beans' blooming stage lasts for 40-45 days, and in highlands for 55-60 days. In foothill areas the beans hibernate successfully if winters are mild (2-4° [C] below zero). During early spring hibernated plants opened vigorously and bloomed one month earlier as compared with plants which were sown on 8 March.

Card 1/1

COUNTRY : USSR
CATEGORY : Cultivated Plants. Forage Crops.

ABS. JOUR. : RZhBiol., No. 23 1958, No. 104744

AUTHOR : Balyan, G. A.

INST. :

TITLE :

Karabakhskaya Zonal Experiment Station, AS Azerbaydzhan SSR
The Continuance of Fodder Cabbage.

ORIG. PUB. : Zhivotnovodstvo, 1958, NO. 2, 51-53

ABSTRACT

: Experience in three-year cultivation of fodder cabbage under the conditions of irrigation at Karabakhskaya Zonal Experiment Station, Academy of Sciences Azerbaydzhen SSR, are described. Fodder cabbage produced two crops a year in the first year of life for which the mowing in the first half of July must be provided for. With carrying out the first mowing on the 3rd of July, the aggregate yield of the 2nd mowing comprised 160.3 centners of silage mass from 1 hectare. In the conditions of the Experiment Station, fodder cabbage can vegetate the year round producing in the 2nd

Card: 1/2

82

PETROSYAN, S., nauchnyy sotrudnik; BELYAN, G., nauchnyy sotrudnik

Alfalfa in dry-farming areas. Nauka i pered.op. v sel'khoz.
9 no.3:21-22 Mr '59. (MIRA 12:5)
(Alfalfa)

BALYAN, G.A., kand.sel'skokhozyaystvennykh nauk

Cultivated hayfields on mountain slopes. Zemledelie 24
no.10:38 0 '62. (MIRA 15:11)

1. Stepanakertskaya kompleksnaya zonal'naya opytnaya
stantsiya.

(Azerbaijan—Pastures and meadows)

KOKURIN, A.D.; BAL'YAN, Kh.B., nauchnyy red.; VOROB'YEV, G.S., red.izd-va;
GURDZHIYEVA, A.M., tekhn.red.

[Role played by chemistry in technological progress] Rol' khimii
v tekhnicheskoy progressse. Leningrad, Ob-vo po raspr. polit. i
nauchn.znaniy RSFSR, Leningr.otd-nie, 1961. 52 p. (MIRA 14:6)

(Chemistry, Technical)

BAL'YAN, KH, V.

Zal'kind, Yu. S. and Bal'yan, Kh. V. - "Some derivatives of phenanthrene." (p. 1209)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1920, Vol. 20, No. 7.

CA

Action of some inhibitors in catalytic hydrogenation in the presence of palladium. Yu. S. Zal'kind and Kh. V. Hal'yan. *Trudy Leningrad. Tekhnol. Inst. im. Leningrad. Univ.* 1946, No. 12, 73-96. The inhibiting action of

NH_4CNS , $(\text{NH}_4)_2\text{CS}$, $\text{Pb}(\text{OAc})_2$, and $\text{Cu}(\text{OAc})_2$ during hydrogenation with colloidal Pd of $(\text{CCC}(\text{OH})\text{Me})_2$ (I), $\text{Me}_2\text{C}(\text{OH})\text{C}(\text{H})\text{CH}$ (II), and $\text{Me}_2\text{C}(\text{OH})\text{C}(\text{H})\text{CH}$ (III) in general decreases in the above order. The Pb salt is more active with alcs., and the Cu salt with the glycol. II is less affected by the inhibitors than I, but III somewhat more than II and less than I. Ethylenic alcs. absorb H fastest when in *slitu nascendi* from the acetylenic ones. KCN , Na_2AsO_3 , Na_2AsO_4 , CoSO_4 , and NiSO_4 are inactive as inhibitors. The inhibiting action is believed to be due to an interaction of the inhibitor with the org. compd. rather than with the Pd. Exptl. data are tabulated.

Kitty Lus

[illegible]

CA

Some derivatives of phenanthrene. Yu. S. Zalkind and Kh. Ya. Bal'yan (Leningrad Technol. Inst., Leningrad). *Zhur. Obshch. Khim.* (J. Gen. Chem.) 20, 1280-11 (1950).
 A solution of 30 g. 9-bromophenanthrene in 150 ml. Et₂O to 5.4 g. Mg and activation with EtMgBr (from 2 ml. Et₂O) soln. led to rapid reaction, complete in 30 min. (addn. of dry C₆H₆ to moderate the reaction is recommended); the mixt. treated with 10 ml. AcH and let stand 7 hrs. gave 70% methyl 9-phenanthrylcarbinol, m. 133-4°, and a small amt. of apparently phenanthrylethyl phenanthryl ether, m. 100°. Et₂O gave 52-55% ethyl 9-phenanthrylcarbinol, m. 102° (from petr. ether and EtOAc). Similarly, Me₂C₄O gave dimethyl 9-phenanthrylcarbinol, m. 77-8°, which on distn. readily gave isopropenylphenanthrene, b. 172-4°. Me₂C₄O gave 50% propyl 9-phenanthrylcarbinol, m. 107-8° (from CH₂Cl₂-petr. ether), while Me₂C₄O gave 51% methyl 9-phenanthrylcarbinol, m. 108° (from ligroin). Isopropyl 9-phenanthrylcarbinol, m. 90-100° (from ligroin). G. M. Kowalevskii

CA

10

Several derivatives of phenanthrene. Yu. S. Zalkind
and Kh. Y. Balyan. *J. Gen. Chem. U.S.S.R.* 20, 1233-5
(1950) (Engl. translation). See C.I. 45, 1571c. R.M.S.

USSR/Chemistry - Catalysts

Apr 51

"Action of Inhibitors on the Catalytic Hydrogenation of Certain Acetylene and Ethylene Alcohols, II," Kh. V. Bal'yan, Chair of Org Chem, Lenin-Grad Tech Inst (ment) Leningrad

"Zhur Obshch Khim" Vol XXI, No 4, pp 720-729

Studied inhibiting action of chlorobenzene, thiocyanobenzene, p-thiocyanochlorobenzene, thiophenyl mustard oil, p-thiocyanosamine, thiocycano-d-naphthol. Last 2 can be used for incomplete hydrogenation over colloidal Pd of corr acetylene alcs into methylpentenol and

182123

USSR/Chemistry - Catalysts (Contd)

Apr 51

methylbutenol, resp. Results indicate that further res will disclose still more sharply selective inhibitors permitting hydrogenation of acetylene alcs into ethylene alcs under similar conditions.

182123

BAL'YAN, Kh. V.

USSR/Chemistry - Catalysts

Apr 51

"Action of Inhibitors on Catalytic Hydrogenation in Presence of Palladium, III," Kh. V. Bal'yan, V. A. Orestova, L. L. Cherenkova, Chair of Org Chem, Leningrad Tech Inst Imeni Leningra

"Zhur Obshch Khim" Vol XXI, No 4, pp 729-734
Synthesized methyl esters of methylbutynol and methylbutenol. Describes their properties. Hydrogenation of esters in presence of colloidal Pd proceeded slower than that of triple or double to shielding by methyl group of triple or double

182124

USSR/Chemistry - Catalysts (Contd)

Apr 51

bond. Phenyl-mustard oil, p-thiocyananiline, p-thiocyano-chlorobenzene inhibited course of hydrogenation.

182124

BAL'YAN, Kh. V.

BAI 'YAN, Kn. V.

3
Yulii Stepanovich Zal'kind. Kh. V. Bai'yan, Len-
ingrad Technol. Inst., Leningrad. Zhur. Obshchei Khim.
23, 1985-81(1953).--Obituary with portrait and complete
bibliography of scientific papers. G. M. Kosolapoff
Joseph Priestley. W. R. Ball. Chemist and Druggist
161, 1907(1907).--Historical facts concerning the discoverer
of O. H. M. Burlage.

104 144 145
U.S. Department of Energy

Contract No. DE-AC02-79-OR-21400

Authors : Bal'yan, Yu. V., and Chernomir

Title : Reaction of 1,5-diketones with carbonyl compounds

U.S. Dept. of Energy, Office of Basic Energy Sciences, Division of Chemical Sciences

U.S. Government Printing Office, Washington, D.C. 20540

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Institution : U.S. Department of Energy, Office of Basic Energy Sciences, Division of Chemical Sciences

Submitted : July 14, 1983

with Chemistry - 1953

Card 1/1 : Pub. 141 - 11/53

Authors : Balyan, M. V.

Title : Hydrogenation of unsaturated compounds in the presence of initiators.
Part 1. Hydrogenation of unsaturated compounds in the presence of initiators.

Periodical : Zhur. ot. khim. 24/3, 501-506, Mar 1954

Abstract : Experimental investigation of the hydrogenation of unsaturated compounds in the presence of initiators. The authors have found that the rate of hydrogenation of unsaturated compounds in the presence of initiators is determined by the nature of the initiator and the nature of the unsaturated compound. The authors have also found that the rate of hydrogenation of unsaturated compounds in the presence of initiators is determined by the nature of the initiator and the nature of the unsaturated compound.

the hydrogenation process is determined by the nature of the initiator and the nature of the unsaturated compound. The authors have also found that the rate of hydrogenation of unsaturated compounds in the presence of initiators is determined by the nature of the initiator and the nature of the unsaturated compound. Seven USSR references (1915-1951). Tables; graphs.

Institution : The Leningrad Technological Institute, Leningrad

Submitted : July 14, 1953

BAL'YAN, Kh.V.; PETROV, A.A.; PORFIR'YEVA, Yu.I.

Research in the field of conjugate systems. Part 65. Hydrogenation
of vinylalkylacetylenes in the presence of colloidal palladium.
Zhur.ob.khim. 26 no.7:1926-1935 J1 '56. (MLRA 9:10)

1. Leningraskiy tekhnologicheskiy institut imeni Lensoвета.
(Hydrogenation) (Acetylene)

AUTHORS: Bal'tyan, Kh. V; Petrov, A. A.; Porfir'yeva, Yu. I. 79-2-19/58

TITLE: Study of Conjugated Systems. Part 72. Hydrogenation of Alkenylacetylenes (Issledovaniya v oblasti sopryazhennykh sistem. LXIII. Gidrirovaniye alkenilatsetilenov)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 365-370 (U.S.S.R.)

ABSTRACT: Experiments on the hydrogenation of propenylacetylene (pentene-3-in-1), butenylacetylene (hexene-3-in-1) and isopropenylacetylene (2-methyl-butene-1-in-3) with colloidal palladium as catalyst showed that in the case of the vinylacetylene hydrocarbons with final acetylene grouping, there is a greater selectivity in the hydrogenation process than in the case of vinylalkylacetylenes. The chemical processes occurring during the hydrogenation of the hydrocarbons described are explained. The isoprene in the hydrocarbon mixture derived during the hydrogenation of isopropenylacetylene was determined in the form of tetrabromide and by the product of its condensation with maleic anhydride. It was established that piperylene and hexadiene-1,3 were formed during the hydrogenation of propenyl- and butenylacetylenes which enter into reaction

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79-2-19/58

Study of Conjugated Systems. Part 72. Hydrogenation of Alkenylacetylenes

of further hydrogenation (up to olefines) in a much lesser degree than the very same hydrocarbons obtained during the hydrogenation of vinylmethyl and vinylethyl acetylenes.

A similar selectivity was also observed during the hydrogenation of acetylene alcohols with final acetylene grouping. It was discovered during the hydrogenation of the hydrocarbons that the entire surface of the catalyst, capable of hydrocarbon adsorption, was occupied by acetylene groupings of alkenylacetylenes up to the moment of almost complete conversion into diene hydrocarbons. After the surface was liberated, the hydrogenation of the diene hydrocarbons began with a considerably greater rate. The differences in the behavior during catalytic hydrogenation are explained.

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79-2-19/58

Study of Conjugated Systems. Part 72. Hydrogenation of Alkenylacetylenes
3 tables, 1 graph. There are 9 references, of which 5 are Slavic

ASSOCIATION: Leningrad Technological Institute imeni Lensevet

PRESENTED BY:

SUBMITTED: February 24, 1956

AVAILABLE: Library of Congress

Card 3/3

BAL'YAN, KH. V.

79-1-23/63

AUTHORS: Bal'yan, Kh. V. , Lerman, Z. A. , Merkur'yeva, L. A.

TITLE: Hydrogenation in the Presence of Colloidal Palladium (Gidrirovaniye v prisutstvii kolloidal'nogo palladiya)
IX. Hydrogenation of Vinylpropyl- and Vinylbutyl-Acetylene
(IX. Gidrirovaniye vinilpropil - i vinilbutilatsetilenov)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol.28, Nr 1, pp.110-116(USSR)

ABSTRACT: One of the authors earlier investigated the hydrogenation of two close homologues of vinylacetylene, namely vinylmethyl- and vinyl ethyl-acetylene. It was of interest to test the same reaction also on other derivatives of vinylacetylene with a longer chain of atoms. For this purpose the authors hydrated vinylpropyl- and vinylbutyl-acetylene in the presence of colloidal palladium. The hydrogenation products were separated from the initial product and the mixture of olefines and diolefines brominated. According to the quantity of di- and tetra-bromides separated by vacuum distillation it was possible to conclude the proportional quantity of olefines and

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Hydrogenation in the Presence of Colloidal Palladium. IX. Hydrogenation of Vinylpropyl- and Vinylbutyl-Acetylene

diolefines. The physical constants of the ozonolysis and the condensation with maleic-acid anhydride gave information on the structure of the olefines and diolefines regenerated with zinc from the bromides. According to the nature of the curve which gives the velocity process it can be seen that the hydrocarbons to be investigated are almost not different from their earlier investigated homologues, vinylmethyl- and vinylethyl-acetylene (see diagram). On the basis of the investigations it was thus determined that in the hydrogenation of vinylpropyl- and vinylbutyl-acetylene in the presence of colloidal palladium the addition of hydrogen takes place in the same manner as in vinylmethyl- and vinylethyl-acetylene; i.e. at the triple bond, the further hydrogenation of the developing dienes to the corresponding ethylene hydrocarbons taking place simultaneously. It was found that the addition of a small amount of p-chlorobenzene thiocyanate increases the selection of the hydrogenation process. Octadiene-1,3; 1,2,3,4-tetrabromoheptane and tetrabromooctane were characterized for the first time; the exact constants for heptadiene-1,3 were described. There are 1 figure, 2 tables, and

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Hydrogenation in the Presence of Colloidal Palladium. IX. Hydrogenation
of Vinylpropyl- and Vinylbutyl-Acetylene 79-1-23/63

9 references, 7 of which are Slavic,

ASSOCIATION: Leningrad Technological Institute imeni Lensovet
(Leningradskiy tekhnologicheskii institut im. Lensoveta)

SUBMITTED: January 4, 1957

AVAILABLE: Library of Congress

Card 3/3

1. Chemistry 2. Hydrocarbons 3. Mathematical analysis

SOV/79-28-6-4/63

AUTHORS: Petrov, A. A., Baliyan, Kh. V., Kheruze, Yu. I.,
Shvarts, Ye. Yu., Cherenkova, L. L.

TITLE: Investigations in the Field of Combined Systems (Issledovaniya v oblasti sopryazhennykh sistem) LXXXIX. The Influence of Various Factors on the Yield of Geranyl Chloride in the Reaction of Isoprene With Its Hydrochlorides (LXXXIX. Vliyaniye razlichnykh faktorov na vykhod geranilkhlorida v reaktsii isoprena s yego gidrokhloridami)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 6, pp. 1435 - 1444 (USSR)

ABSTRACT: In many investigations of synthesizing geranyl chloride in a good yield special attention was paid to the binding of the 1 chloro-3-methylbutene-2 to isoprene. Its production offered good prospects to the perfume- and vitamin industry. This was the reason for many laboratories, such as the author's, to investigate the reaction of the diene hydrocarbons with their hydrochlorides in order to learn on which conditions the best yields of geranyl chloride and its derivatives

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SOV/79-28-6-4/63

Investigations in the Field of Combined Systems. LXXXIX. The Influence of Various Factors on the Yield of Geranyl Chloride in the Reaction of Isoprene With Its Hydrochlorides

could be realized. The final product of the binding of isoprene hydrochlorides to isoprene is a complex mixture of halogen derivatives of the formula $C_5H_9-(C_5H_8)_n-Cl$. In this paper only the fraction of terpene chlorides of the composition $C_{10}H_{17}Cl(n=1)$ was investigated. The telomerization reaction of isoprene with its hydrochlorides was investigated in the presence of various catalysts of which tin chloride and zinc chloride proved to be the best. It was found that the character of the telomerization depends on the nature of the catalyst: tin chloride promotes the formation of the higher telomers besides geranyl chloride, tin chloride that of terpenyl chloride. It was shown that in using tin chloride and zinc chloride catalysts the yield of geranyl chloride depends first of all on the depth of the conversion, and that with the same depth of conversion secured it does not depend on the nature of the catalyst, the nature of the halogen derivatives, the temperature, the ratio of reagents, and only little on the nature of the solvent. The composition of the mixture of terpene chlorides forming in the telo-

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Investigations in the Field of Combined Systems. LXXXIX. The Influence of Various Factors on the Yield of Geranyl Chloride in the Reaction of Isoprene With Its Hydrochlorides

merization can be determined according to the frequency intensities of the infrared spectrum within the range of 1,6 and of from 10 ~ 12 μ . There are 3 figures, 4 tables, and 11 references, 10 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet
(Leningrad Technological Institute imeni Lensovet)

SUBMITTED: May 24, 1957

1. Chlorodimethyloctadine--Synthesis 2. Isoprene--Chemical reactions

Card 3/3

BAL'YAN, Khoren Vaganovich, kand.khim.nauk; CHERVOVA, M.S., red.;
ONOSHKO, N.G., tekhn.red.

[Wondrous transformations (preparation and use of acetylene)]
Chudesnye prevrashcheniia; o poluchenii i primeneniі atsetilena.
Leningrad, Lenizdat, 1959. 55 p. (MIRA 13:1)
(Acetylene)

ROZEN, Boris Yekovlevich; USHAKOV, S.N., retsenzent; BAL'YAN, Kh.V.,
kand.khim.nauk, retsenzent; CHERVOVA, M.S., red.; SMIRNOV, P.S.,
tekhn.red.

[Century of polymers] Vek polimerov. Leningrad, Lenizdat, 1959.
246 p. (MIRA 13:5)

1. Chlen-korrespondent AN SSSR (for Ushakov).
(Polymers)

5(2)

AUTHORS:

Vovsi, B. A., Bal'yan, Kh. V.

SOV/32-25-4-15/7:

TITLE:

Accelerated Method for Determining Carbon in Minerals
(Uskorennyy metod opredeleniya ugleroda v gornyykh porodakh)

PERIODICAL:

Zavodskaya Laboratoriya, 1959, Vol 25, Nr 4, pp 418-420 (USSR)

ABSTRACT:

An accelerated method was worked out for determining the carbon content in minerals. The principle of the method is based on a combustion of the carbon at 1000-1100° in the current of a purified oxygen. The combustion products run successively through absorption agents in which the water, the nitrogen oxides, and the sulphur are absorbed. The remaining carbon dioxide is absorbed in solid granulated potash lye, and the carbon content in the weighed sample is calculated by the increase in weight of the lye. It was observed that by mixing the sample with pure, annealed quartz sand more accurate results are obtained (Table 1). At a high carbon content there must be taken either a smaller weighed sample or more quartz sand must be added. A table of test results for different weighed samples according to the carbon content is given (Table 2). The sketch of the plant (Figure) and its description show, among other

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Accelerated Method for Determining Carbon in Minerals

SOV/32-25-4-15/71

things, that 3 types of absorption vessels are used; common U-shaped vessels such according to Tishchenko, and a slightly modified one according to Abagamchik. There are 1 figure, 2 tables, and 1 Soviet reference.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensovet
(Leningrad Technological Institute imeni Lensovet)

Card 2/2

AUTHORS: Petrov, A. A., Bal'yan, Kh. V., Kheruze, Yu. I., Shvarts, Ye. Yu.,
Yakovleva, T. V. SOV/79-29-2-20/71

TITLE: On the Question of the Structure of Citral, Obtained From the
Synthetic Geranyl Chloride (K voprosu o stroyenii tsitrallya,
poluchennogo iz sinteticheskogo geranilkhlorida)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 445-450 (USSR)

ABSTRACT: In connection with the systematic investigations begun in their
laboratories in the field of telomerization of diene hydro-
carbons with halogen derivatives (Refs 1-3), K. V. Leets,
A. K. Shumeyko and collaborators achieved the synthesis of
citral from isoprene (Ref 4). The question arose obviously,
whether this citral differs from natural samples and especially
from citral, commercially obtained from coriander oil. According
to data contained in publications (Refs 5-7) natural citral
chiefly consists of citral «a», geranial, whereas in synthetic
citral neral (citral «b» is predominant). By the aid of the
infrared spectra of citral isomers separated from one another by
some research workers (Refs 6-8), the structure of citral from
isoprene is conveniently determinable, all the more as it became

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On the Question of the Structure of Citral, Obtained From the Synthetic Geranyl Chloride

SOV/79-29-2-20/71

possible also to solve the question of the content of the α and β -form simultaneously (Ref 9). Thus, investigations were extended to the infrared and ultraviolet spectra, as well as the Raman spectrum of synthetic citral, obtained from the telomers of isoprene with its hydrochlorides according to Somme. The citral samples obtained from both isomeric hydrochlorides of isoprene, were found to be practically identical. Synthetic citral differs somewhat from natural and technical citral, differences being caused by the different content of geometrical isomers (geranial and neral) and by the presence of an admixture. Synthetic citral was found to have but a small amount of α -form. There are 2 figures, 4 tables, and 14 references, 8 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet
Leningrad Technological Institute imeni Lensovet)

SUBMITTED: December 31, 1957
Card 2/2

5 (3)

AUTHORS:

Petrov, A. A., Bal'yan, Kh. V., SOV/79-29-5-37/75
Bunina-Krivorukova, L. I., Yakovleva, T. V.

TITLE:

Investigations in the Field of Conjugated Systems
(Issledovaniya v oblasti sopryazhennykh sistem). XCVIII.
Telomerization of Divinyl With Crotyl Chloride and 3-Chloro-
butene-1 (XCVIII. Telomerizatsiya divinila s khloristym
krotilom i 3-khlorbutenom-1)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 5,
pp 1576-1587 (USSR)

ABSTRACT:

In previous papers a certain relationship between the structure of initial dienes and chlorine derivatives and the structure of the resulting telomers was found (Refs 1-3). As compared with its homologs and derivatives, divinyl was found to form much more 1,2-adducts. In a French patent (Ref 4) it is, however, stated that crotyl chloride and -bromide are added to divinyl in 1,4-position. In order to explain this contradiction, the reaction mentioned in the title was carried out in the presence of tin chloride. The reaction products were cleft by distillation to give the adducts with

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Investigations in the Field of Conjugated Systems. SOV/79-29-5-37/75
XCVIII. Telomerization of Divinyl With Crotyl Chloride and 3-Chloro-butene-1

the composition $C_4H_7-C_4H_6-Cl$, $C_4H_7-(C_4H_6)_2-Cl$ and higher telomers. The first-mentioned fraction was separated into the two partial fractions A and B. Fraction A primarily consisted of 3-Cl-octadiene-1,6 (1,2-addition), fraction B of 1-Cl-octadiene-2,6 (1,4-addition). The ratio of the quantities of fraction A and fraction B was 1 : 1.3. This refutes the statements of the afore-mentioned patent. Furthermore, the infrared spectra of the two fractions A and B, their reaction with urotropin, and their hydrogenation products of $Pd/CaCO_3$ were investigated. The fraction with the telomers $C_4H_7-(C_4H_6)_2-Cl$ was likewise investigated. Both products of the 1,2-addition and products of the 1,4-addition were found. The higher telomers were not investigated. Apparently, the reaction of telomerization is of ionic nature, and both allyl isomers form the same cation which exhibits a double reactivity with a more considerably pronounced electrophilic activity in position 1. By the telomerization of divinyl with allyl chloride under the same conditions only higher telomers were obtained. Figure 1 shows the individual

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Investigations in the Field of Conjugated Systems. SOV/79-29-5-37/75
XCVIII. Telomerization of Divinyl With Crotyl Chloride and 3-Chloro-butene-1

infrared spectra of telomers and their reaction products with urotropin. Figure 2 presents the infrared spectra of carbonyl compounds obtained by Somme reaction. Figure 3 shows the infrared spectra of hydrocarbons obtained by hydrogenation. Figure 4 gives the infrared spectra of telomers with the composition $C_4H_7-(C_4H_6)_2-Cl$. Table 1

presents the results of distillation of the telomers obtained with crotyl chloride and 3-chlorobutene-1. Table 2 gives the characteristic features of reaction products obtained with crotyl chloride, table 3 the characteristic frequencies of the infrared spectra. Table 4 shows the physical data of telomers obtained with crotyl chloride of the composition $C_4H_7-(C_4H_6)_2-Cl$. Table 5 contains the same

for the products of telomerization with 3-chloro-butene-1, and table 6 the same for higher telomers obtained with 3-chloro-butene-1 of the composition $C_4H_7-(C_4H_6)_2-Cl$.

There are 4 figures, 6 tables, and 11 references, 5 of which are Soviet.

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Investigations in the Field of Conjugated Systems. SOV/79-29-5-37/75
XCVIII. Telomerization of Divinyl With Crotyl Chloride and 3-Chloro-butene-1

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lenseveta
(Leningrad Technological Institute imeni Lensevet)

SUBMITTED: March 31, 1959

Card 1/4

SOV/79-29-6-21/72

5(3)
AUTHORS:

Petrov, A. A., Bal'yan, Kh. V., Kheruze, Yu. I., Shvarts, Ye. Yu.,
Cherenkova, L. L.

TITLE:

Investigations in the Field of the Conjugated Systems (Issledova-
niya v oblasti sopryazhennykh sistem). XCIX. On the Problem of
the Synthesis of Geranyl Chloride by Telomerization of Isoprene
With Its 1,4-Hydrochloride (XCIX. K voprosu o sinteze geranil-
khlorida telomerizatsiyey izoprena i yego 1,4-gidrokhlordom)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 6,
pp 1876 - 1878 (USSR)

ABSTRACT:

In a report recently published (Ref 1) the authors described
the synthesis of geranyl chloride by means of telomerization
of isoprene with its hydrochloride in the presence of stannic
or stannous chloride as catalysts. In the paper under review
the results of further investigations on this reaction were
presented, in which, however, different catalysts were used. The
effect of titanium tetrachloride on the mixture of isoprene and
its 1,4-hydrochloride (1-chloro-3-methyl butene-2), on the
mixtures of $TiCl_4$ and $SnCl_4$, $SnCl_4$ and excess HCl , $SnCl_4$ and

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Investigations in the Field of the Conjugated Systems. SOV/79-29-6-21/72
XCIX. On the Problem of the Synthesis of Geranyl Chloride by Telomerization
of Isoprene With Its 1,4-Hydrochloride

CuCl_2 , FeCl_3 and potassium bifluoride, $\text{Zn}(\text{BF}_4)_2$ and BiBr_3 was investigated. The investigations with these catalysts led to the conclusion that on telomerization of isoprene with its hydrochloride two groups of catalysts have to be distinguished: The catalysts of the first group (SnCl_4 , TiCl_4 , FeCl_3) yield the highest telomers. The catalysts of the second group (ZnCl_2 , $\text{Zn}(\text{BF}_4)_2$, BiBr_3) only lead to the stage of the formation of terpene chlorides where the reaction stops. The cause of this stop is, as has been already found previously, the partial cyclization of the geranyl chloride into the terpenyl chloride. Therefore the content of geranyl chloride in the terpene fraction of the telomer is far less than when using catalysts of the first group. The hydrogen chloride retards the telomerization but does not affect its character. There are 1 table and 1 Soviet reference.

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Investigations in the Field of the Conjugated Systems. SOV/79-29-6-21/72
XCIX. On the Problem of the Synthesis of Geranyl Chloride by Telomerization
of Isoprene With Its 1,4-Hydrochloride

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet (Leningrad Technological Institute imeni Lensovet)

SUBMITTED: May 31, 1958

Card 3/3

3 (5)
AUTHORS:

Petrov, A. A., Bal'yan, Kh. V.,
Kheruze, Yu. I., Yakovleva, T. V.

SOV/79-29-6-72/72

TITLE:

The Article is Open for Discussion (V poryadke diskussii).
On the Question of the Character of Chloroarylation of Vinyl
Acetylene (K voprosu o poryadke khlorarilirovaniya vinil-
atsetilena)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 6, pp 2101 - 2103
(USSR)

ABSTRACT:

The data of the American patent 2657244 according to which
vinyl acetylene is chloroarylized with diazo salts only on the
ethylene bond (I) have been confirmed in the recently publish-
ed report of A. V. Dombrovskiy (Ref 1). The exclusively claim-
ed 1,2-affiliation of chlorine and aryl in this radical proc-
ess seemed to the authors not quite probable. The frequently
repeated analysis under conditions proposed by Dombrovskiy
showed, that the categoric conclusion of this author with re-
gard to the character of chloroarylation of vinyl acetylene
does not correspond to reality. In every case the reaction
takes place under formation of somewhat varying, but always
considerable quantities of 1,4-products (20-40% of all adducts).

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The Article is Open for Discussion. On the Question SOV/79-29-6-72/72
of the Character of Chloroarylation of Vinyl Acetylene

The authors gained this conviction on the basis of the analyses of infrared spectra of the adducts. In addition to the frequencies of the acetylene group the spectra contained in the final phase an intensive frequency, which could only be attributed to the allene group of the compound (II). The chloroarylation products of the vinyl acetylene apparently contain in very small quantities also a third isomer, the 1,3-diene isomer (III), because the spectrum of the product in the range 6100 cm^{-1} shows a small maximum, which is characteristic of the group $\text{CH}_2=$.

According to Dombrovskiy's report phenyl-vinyl acetylene to which 20% allene chloride is admixed, is obtained at the dehydro-halogenation of chloroarylation products of the vinyl acetylene. Accordingly this allene chloride contains a much less mobile chloride atom, than the acetylene chloride (I). To produce pure phenyl-vinyl acetylene, the method of S. N. Reformatskiy (Ref 5) was used and this reaction was accompanied by a partial propargyl re-grouping and the formation of a mixture of approximately 80% (IV) and 20% (V). The chloride (VI), however, which was obtained from this mixture by the re-

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The Article is Open for Discussion. On the Question SOV/79-29-6-72/72
of the Character of Chloroarylation of Vinyl Acetylene

action of SOCl_2 , contains a very small quantity of allene chloride. The same happens when phenyl-vinyl acetylene is obtained at the dehydro-halogenation of chloride (VI). The data obtained are shown in the table and in the diagram. There are 1 figure and 6 references, 4 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet
(Leningrad Technological Institute imeni Lensovet)

SUBMITTED: July 16, 1958

Card 3/3

USCOMM-DC-61,208

5 (3)

AUTHORS:

Petrov, A. A., Bal'yan, Kh. V.,
Bunina-Krivorukova, L. I.,
Yakovleva, T. V.

SOV/79-29-8-13/81

TITLE:

Investigations in the Field of Conjugate Systems. CV. Telomeri-
zation of Divinyl With the Hydrochloride of Chloroprene
(1,3-Dichlorobutene-2)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2518 - 2521
(USSR)

ABSTRACT:

In their report (Ref 2) A. L. Klebanskiy, A. G. Sayadyan, and
M. G. Barkhudaryan recently asserted that in telomerizing
1,3-dichlorobutene-2 with divinyl only the 1,4-adduct is ob-
tained. To solve this problem, the telomerization of 1,3-di-
chlorobutene-2 with divinyl under standard conditions in the
presence of tin chloride (Refs 3-6) was carried out by the au-
thors in the present paper. The results are in direct contra-
diction to those obtained by Klebanskiy and collaborators. The
telomerization products of the composition $C_8H_{12}Cl_2$ boiled
higher by 20-25° at 10 mm Hg than those mentioned by Klebanskiy.
Two fractions of almost equal quantities were obtained by dis-

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Investigations in the Field of Conjugate Systems.
CV. Telomerization of Divinyl With the Hydrochloride
of Chloroprene (1,3-Dichlorobutene-2)

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tillation the first predominantly containing the 1,2-adduct (3,7-dichlorooctadiene-1,6), and the second predominantly the 1,4-adduct (1,7-dichlorooctadiene-2,6). From both fractions the same aldehyde, 7-chlorooctadiene-2,6-al, was obtained according to the spectrum and melting point of the 2,4-dinitrophenyl hydrazone by way of the Somme reaction. In the infrared spectrum of this aldehyde one intense frequency corresponds to the carbonyl group and two frequencies to the grouping $-\text{CH}=\text{CH}-$. According to the spectrum, the distillation residue of both fractions appears to be a 1,2-product which is practically free of the 1,4-adduct, but contains impurities of carbonyl compounds. From the hydrogenation of the entire adduct $\text{C}_8\text{H}_{12}\text{Cl}_2$ over Pd/CaCO_3 the n-octane resulted which was identified. Thus, it was shown that in contrast to data by Klebanskiy and collaborators, 1,3-dichlorobutene-2 as well as crotyl chloride adds to divinyl, i.e. to the positions 1,2 and 1,4. No significant differences exist between the adducts $\text{C}_8\text{H}_{12}\text{Cl}_2$ and

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Investigations in the Field of Conjugate Systems.
CV. Telomerization of Divinyl With the Hydrochloride
of Chloroprene (1,3-Dichlorobutene-2)

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the higher telomers. The product obtained by Klebanskiy and collaborators corresponds to that obtained by the authors exactly according to their instructions, however, its yield is considerably smaller than that mentioned in their report. Besides, a carbonyl compound is admixed to this product, probably a ketone as a result of a hydrolytic cleavage of the chlorine atom from the double bond. There are 1 figure and 9 references, 8 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet
(Leningrad Institute of Technology imeni Lensovet)

SUBMITTED: July 16, 1958

Card 3/3

5(3)

AUTHORS:

Bal'yan, Kh. V., Borovikova, N. A.

SOV/79-29-8-20/81

TITLE:

Hydrogenation of Unsaturated Compounds in the Presence of Colloidal Palladium. XI. Hydrogenation of Vinyl Acetylene

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2553-2557 (USSR)

ABSTRACT:

As the selective hydrogenation of vinyl acetylene into the divinyl is of great practical importance, the authors investigated the influence exerted by different additions upon the composition of the hydrogenation products of the hydrocarbon mentioned, in the presence of colloidal palladium. The essential disadvantage of the hydrogenation experiments hitherto carried out for vinyl acetylene (Refs 2-5,9) with different catalysts, also with colloidal palladium which was first used by S. V. Lebedev, is due to the great losses of gases (up to 44%) on their escape from the hydrogenation device. Therefore, the authors devised such experimental conditions under which these losses were considerably reduced; conditions under which the molar ratio between vinyl acetylene and hydrogen was below the ratio 1:1. The gas mixture collected was quantitatively analyzed with respect to vinyl acetylene, divinyl and butylene.

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Hydrogenation of Unsaturated Compounds in the Presence of Colloidal Palladium.
 XI. Hydrogenation of Vinyl Acetylene

SOV/79-29-8-20/81

The molar ratios between vinyl acetylene and hydrogen in the hydrogenation were 1:1, 1:0.75, 1:0.5. The following additions were used in different quantities: lead and copper acetate, n-thiocyano-chloro-benzene, pyridine, quinoline, aniline, and diethylamine. According to table 1, lead acetate was the most active of all additions, especially at a hydrogenation ratio of 1:1, both with respect to the increased yield of divinyl and the decreased quantity of butylenes. As to the activity and retardation of the reaction, it was followed by copper acetate (Tables 1,2,3). The influence of the n-thiocyano-chloro-benzene mainly became manifest in a decreased yield of butylenes which fact is also of positive value. The organic bases were added in considerably higher quantities; they gave lower yields of the end product. Aniline exerted a positive effect only at a hydrogenation ratio of 1:1, diethylamine and pyridine were negative. There are 4 tables and 9 references, 8 of which are Soviet.

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Leningradskiy tekhnologicheskij institut imeni Lensovet

Hydrogenation of Unsaturated Compounds in the Presence of Colloidal Palladium.
XI. Hydrogenation of Vinyl Acetylene

SOV/79-29-8-20/81

(Leningrad Technological Institute imeni Lensovet)

SUBMITTED:

July 19, 1958

Card 3/3

5(3)

AUTHORS:

Bal'yan, Kh. V., Borovikova, N. A.

SOV/79-29-8-21/81

TITLE:

Hydrogenation of Unsaturated Compounds in the Presence of Col-
loidal Palladium. XII. Hydrogenation of Alkyl Acetylenes and
Phenyl Acetylene

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2557-2560
(USSR)

ABSTRACT:

In addition to the papers of references 1-5, the authors in-
vestigated under the same conditions the hydrogenation of the
monosubstituted acetylene hydrocarbons which have alkyl and
aryl radicals, on colloidal palladium. They used for this
purpose hexyne-1, heptyne-1, octyne-1 and phenyl acetylene.
All these hydrocarbons were shown to add the first two hydrogen
atoms with nearly constant rate which abruptly increases after-
wards and then drops again, as can be seen in the figure. The
hydrogenation curves of the alkyl acetylenes are very similar
to those of the alkenyl acetylenes (Ref 5). These observations
correspond, to a certain extent, with those of the other authors,
Yu. S. Zal'kind, et al (Refs 6-9). The alkyl acetylenes add
the first hydrogen molecule in a strictly selective way. The

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samples which were directly taken from the reaction mass did not react with silver oxide; the separated and purified hydrogenation products did not indicate an acetylene bond according to the infrared spectrum which was taken and assigned by T. V. Yakovleva. The bromide-bromate method gave a yield of 95-98% of compounds with a double bond. As to the physical constants, the resultant hydrocarbons correspond with the corresponding olefins. In the infrared spectra of the hydrogenation products, the characteristic frequencies of the vinyl group were detected, as was expected. According to the investigations of the authors, the separated product of the above-mentioned reaction did not contain any acetylene bond which was confirmed by spectrum analysis and by means of the bromide-bromate method (79.7% compounds with a double bond!). It was thus shown that the mono-substituted acetylene hydrocarbons with alkyl and phenyl radicals add the hydrogen to the triple bond on colloidal palladium in a strictly selective manner. There are 1 figure, 3 tables, and 11 references, 9 of which are Soviet.

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Hydrogenation of Unsaturated Compounds in the Presence of Colloidal Palladium.
XII. Hydrogenation of Alkyl Acetylenes and Phenyl Acetylene

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet
(Leningrad Technological Institute imeni Lensovet)

SUBMITTED: July 19, 1958

Card 3/3

5(3)

AUTHORS:

Bal'yan, Kh. V., Borovikova, N. A.

SOV/79-29-9-16/76

TITLE:

Hydrogenation of Unsaturated Compounds in the Presence of Colloidal Palladium. XIII. Hydrogenation of Carbocyclic Enin Hydrocarbons

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 2882-2889 (USSR)

ABSTRACT:

In their previous reports, the authors described the results obtained from the hydrogenation of vinyl acetylene, of alkyl- and phenyl acetylene (Ref 1) as well as of vinyl-alkyl- and alkenyl acetylenes (Ref 2). The present investigations were extended to the hydrogenation of the hydrocarbons of the carbocyclic series with a conjugate enin system on colloidal palladium. For this purpose, 1-ethinyl cyclopentene-1(I), 1-ethinyl cyclohexene-1(II), 1-phenyl buten-3-in-1(III), 4-phenyl buten-3-in-1(IV) were hydrogenated on colloidal palladium. The hydrocarbons under investigation having an acetylene group in terminal position are exclusively hydrogenated on the triple bond. Hydrogenation of 1-phenylbuten-3-in-1, which is a double-substituted acetylene, likewise begins on the triple bond, under formation of a diene hydrocarbon, which is then, however, partially hydrogenated into an olefin.

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Finally, the hydrogenation of 1-phenylbuten-3-in-1 results in a mixture of the initial products, of diene and olefin. The hydrogenation rate of hydrocarbons with an acetylene group in terminal position rises abruptly after the addition of the first two hydrogen atoms, and then drops again. The addition rate of hydrogen on the carbon 1-phenylbuten-3-in-1, however, drops gradually. Thus, carbocyclic enin hydrocarbons are exclusively hydrogenated on the triple bond over colloidal palladium, under formation of a hydrocarbon with conjugate double bonds. The authors thank T. V. Yakovleva for assistance given in the analysis of the infrared spectra. There are 5 figures, 3 tables, and 18 references, 10 of which are Soviet.

ASSOCIATION: Leningradskiy tekhnologicheskii institut imeni Lensovet
(Leningrad Institute of Technology imeni Lensovet)

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SOV/79-29-9-16/76
Hydrogenation of Unsaturated Compounds in the Presence of Colloidal Palladium.
XIII. Hydrogenation of Carbocyclic Enin Hydrocarbons

SUBMITTED: July 19, 1958

Card 3/3

SHVARTS, Ye.Yu.; PETROV, A.A.; BAL'YAN, Kh.V.

Some characteristics of the bromination of citric acid. Trudy
LTI no.60:78-84 '60. (MIRA 14:6)

1. Kafedra organicheskoy khimii Leningradskogo tekhnologicheskogo
instituta imeni Lenoveta.
(Citric acid) (Bromination)

S/079/60/030/010/015/030
B001/B066

AUTHORS: Bal'van, Kh. V., Petrov, A. A., Borovikova, N. A.,
Kormer, V. A. and Yakovleva, T. V.

TITLE: Hydrogenation¹ of Unsaturated Compounds in the Presence of
Colloidal Palladium. XIV. Some Peculiarities of the
Hydrogenation of Bisubstituted Allene Hydrocarbons

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 10,
pp. 3247 - 3253

TEXT: There are only few data available in publications concerning special cases of the hydrogenation of seven bisubstituted allenes (Table). In the present paper, the authors study some rules governing the hydrogenation of the following bisubstituted allene hydrocarbons: octadiene-3,4; nonadiene-3,4; decadiene-3,4; 7-methyl octadiene-2,3; 7-methyl octadiene-3,4; 6,6-dimethyl heptadiene-2,3; and 7,7-dimethyl octadiene-3,4. It was found that the first hydrogen mole is usually added at an increasing rate, after which hydrogenation slows down considerably (Diagram 1). In hydrocarbons of isostructure this rule

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Hydrogenation of Unsaturated Compounds in the Presence of Colloidal Palladium. XIV. Some Peculiarities of the Hydrogenation of Bisubstituted Allene Hydrocarbons

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B001/B066

manifests itself still more distinctly. The hydrogenation of allenes takes place selectively, and, when taking up half of the calculated hydrogen quantity, a mixture of olefins with a double bond in position 2-, 3-, or 4- is formed. Allene hydrocarbon reacts completely in this case. Alkenyl allenes (octatriene-1,3,4; decatatriene-1,3,4; 2-methyl octatriene-1,3,4; 8-methyl nonatriene-1,3,4) are hydrogenated in the same way: After taking up about 2 moles of hydrogen, the reaction rate decreases rapidly. Allenes and hydrocarbons having a double bond in the end position disappear completely or to a considerable extent after taking up the first hydrogen mole. The infrared spectra of the hydrogenation products of allenes with 50% of the hydrogen quantity are not indicative of allene compounds (Diagram 2). Diagram 1 does not show any characteristic differences of the hydrogenation rates of 2,3- and 3,6-dienes. Diagram 3 shows curves for the hydrogenation rates of alkenyl allenes; Diagram 4 shows the infrared spectra of the hydrogenation products of alkenyl allenes in a hydrocarbon/hydrogen ratio of 1:1.

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Presence of Colloidal Palladium. XIV. Some B001/B066
Peculiarities of the Hydrogenation of Disubstituted
Allene Hydrocarbons

The investigation results thus indicate that the hydrogenation of bi-substituted allenes takes place selectively, and is similar to the hydrogenation of acetylenes having the acetylene group in the end position. In the case of alkenyl allenes, the direction of hydrogenation depends to a certain extent on the hydrocarbon structure. There are 4 figures, 2 tables, and 9 Soviet references.

ASSOCIATION: Leningradskiy tekhnologicheskii institut im. Lensovet
(Leningrad Technological Institute imeni Lensovet)

SUBMITTED: October 25, 1959

Card 3/3

BAL'YAN, Kh.V.; PETROV, A.A.; BOROVIKOVA, N.A.; KORMER, V.A.; YAKOVLEVA, T.V.

Hydrogenation of unsaturated compounds in the presence of colloidal palladium. Part 14: Some characteristics of the hydrogenation of disubstituted allene hydrocarbons. Zhur.ob.khim. 30 no.10:3247-3253 0 '61. (MIRA 14:4)

1. Leningradskiy tekhnologicheskii institut im. Lensovet. (Hydrogenation) (Olefins)

88.76

S/079/61/031/001/003/025
B001/B066

5.3400 2209

AUTHOR:

Bal'yan, Kh. V.

TITLE:

Hydrogenation of Unsaturated Compounds in the Presence of Colloidal Palladium. XV. Hydrogenation of Some Oxygen-containing Acetylene Compounds

PERIODICAL: Zhurnal obshchey khimii, 1961, Vol. 31, No. 1, pp. 28 - 35

TEXT: Following his studies on the hydrogenation of unsaturated compounds (primary and secondary alcohols, acids, their esters, ketones and ethers), the author in the present paper states that these alcohols, propiolic acid, its ester, and acetylene ketones with a triple bond in end position and in the center of the chain, are selectively hydrogenated at the acetylene bond. The rate curves of hydrogenation of primary and secondary acetylene alcohols differ from one another, and from those of the hydrogenation of tertiary alcohols. The addition of hydrogen to propiolic acid proceeds much more slowly in absolute ether than in methanol. The hydrogenation of the acid and its ethyl ester is accelerated. The rate curves of acetylene ketone hydrogenation are also different: acetyl acetylene is hydrogenated

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B001/B066

much more slowly than the ketones having the acetylene bond in the center of the chain. The hydrogenation rate of the former ketone sharply increases in the second stage, that of the latter two in the first stage. The carbonyl group of the ketones, and the carboxyl and ester groups of the acids are not hydrogenated under these conditions. The methyl ethers of dimethyl acetylenyl- and dimethyl vinyl carbinols obtained by means of methyl iodide are hydrogenated much more slowly in the presence of colloidal palladium than the alcohols themselves, and those ethers that are synthesized without methyl iodide. This may be due to the presence of rests of the iodine compounds in the ethers. V. A. Kormer, A. A. Ryabikova, and N. A. Borovikova took part in the experiments. There are 4 figures, 2 tables, and 16 references: 10 Soviet, 1 British, 2 French, 2 German, and 1 Danish.

ASSOCIATION: Leningradskiy tekhnologicheskij institut imeni Lensovet
(Leningrad Technological Institute imeni Lensovet)

SUBMITTED: February 16, 1960

Card 2/2

AVERBUKH, A.Ya.; PROSKURYAKOV, V.A.; BAL'YAN, Kh.V., nauchnyy red.;
VOROB'YEV, G.S., red.izd-va; GURDZHIYEVA, A.M., tekhn.red.

[Chemical products from oil shale]Khimicheskie produkty iz
slantsa. Leningrad, Ob-vo po raspr. polit. i nauchn. znani
RSFSR, Leningr. otd-nie, 1961. 43 p. (MIRA 16:2)
(Oil shales)

CHERKASOVA, L. A.; BAL'YAN, Kh.V.; ZUBRITSKIY, L. M.

Reactions of unsaturated compounds with halides of the allyl type. Part 1: Telomerization of piperylene and isoprene hydrobromides with diene hydrocarbons. Zhur. ob. Khim. 34 no.6:1917-1925 Je '64. (MIRA 17:7)

1. Leningradskiy tekhnologicheskij institut imeni Lensoвета.

CHERKASOVA, L.A.; BAL'YAN, Kh.V.; PETROV, A.A.

Reactions of unsaturated compounds with allyl halides. Part 2:
Telomerization of olefins with piperylene hydrobromide. Zhur.
ob. khim. 34 no.9:2917-2925 S '64.

Reactions of unsaturated compounds with allyl halides Part 3:
Addition of piperylene hydrobromide to styrene and phenylacetylene. Ibid.:2926-2930

(MIRA 17:11)

1.Leningradskiy tekhnologicheskij institut imeni Lensovetu.